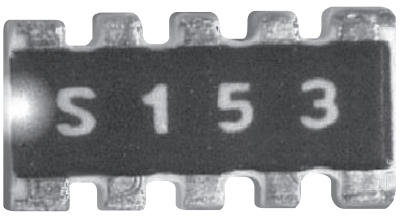
Resistors

Thick Film Chip Arrays

BCN Series



- Sulphur resistant version available (Tested to ASTM-B809)
- AEC-Q200 (BCN10, BCN164AB and BCN4D)
- Convex terminations
- Isolated and bussed versions

Note - BCN4D will be End of Life in September 2021

All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Summary of Types

Type	Part Number Start	Width (mm)	Resistor Elements	Circuit	Package Size	Scalloped Convex	Square Convex
BCN10	BCN104AB	1.0	0402 x 4	Isolated	0804		■
BCN164	BCN164A	1.6	0603 x 4	Isolated	1206	■	
	BCN164AB						■
BCN168	BCN168SB		0603 x 8	Bussed			■
	BCN168RB						■
BCN4D	BCN4D	3.1	1206 x 4	Isolated	2112	■	

Electrical Data

		BCN10	BCN164	BCN168	BCN4D
Resistor power rating @70°C	mW	63		32	125
Package power rating @70°C	mW	250			500
Limiting element voltage	V	25	50	25	75
Maximum overload voltage	V	63	125	63	188
Resistance range	ohms	10R – 1M0		100R – 1M0	10R – 1M0
Resistance tolerance	%	1, 5	1, 2, 5	5	1, 5
TCR	ppm/°C	±200			
Standard values		E24 (for 2% or 5% tolerance), E96 (for 1% tolerance)			
Ambient temperature range	°C	-55 to +155			

General Note

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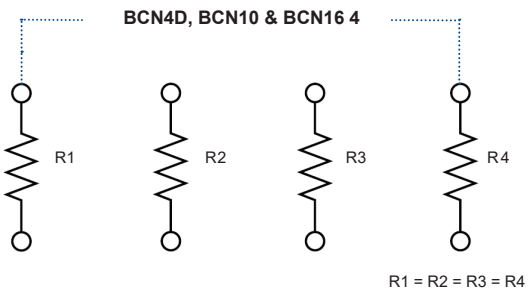
BI Technologies IRC Welwyn

www.ttelectronics.com/resistors

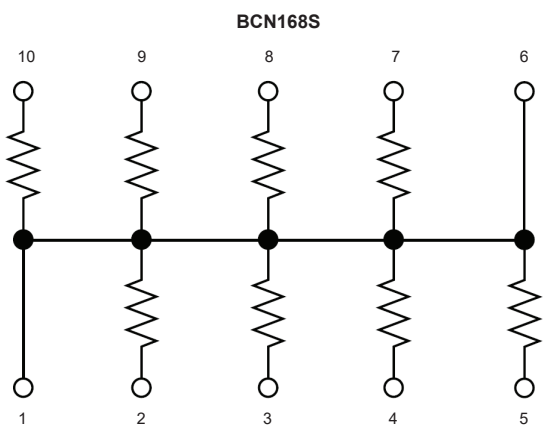
BCN Series

Circuits

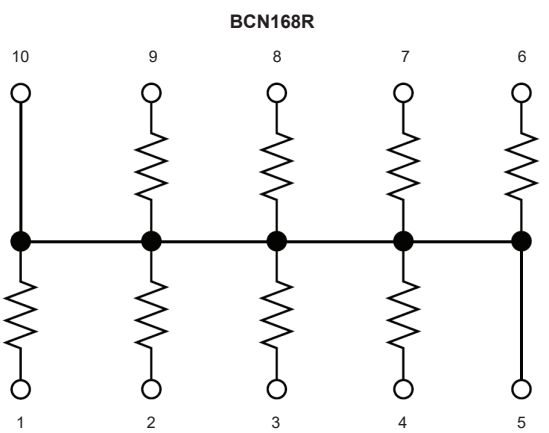
Isolated



Standard Bussed



Reverse Bussed



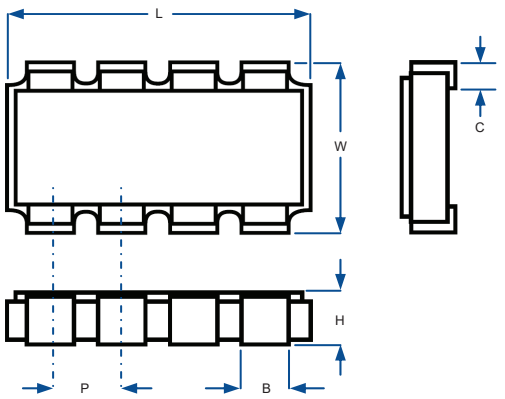
Environmental Data

Test	Condition	ΔR% (+0.1Ω)
Load life	1000 hrs cyclic load @ 70°C	3
Short term overload	2.5 x rated voltage for 5s	2
High temperature operation	1000 hrs @ 155°C	3
Temperature cycling	5 cycles, -55 to +155°C	1
Moisture resistance	1000 hrs @ 40°C, 95% RH	3
Resistance to solder heat	260°C for 10s	1
Sulphur resistance[1]	1000 hrs @ 50°C, 92% RH, 3-5ppm H_2S	0.5

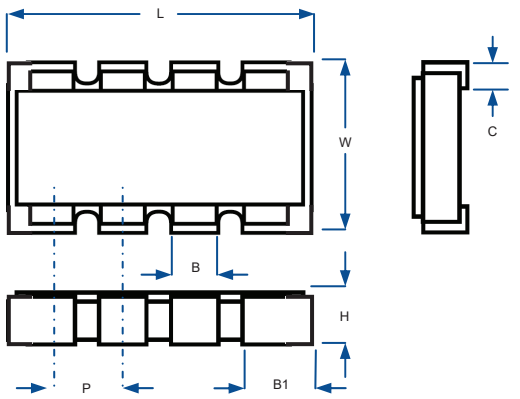
Note 1 – Anti-sulphur construction only

Physical Data (Inch /mm)

BCN4D, BCN164A (scalloped convex)

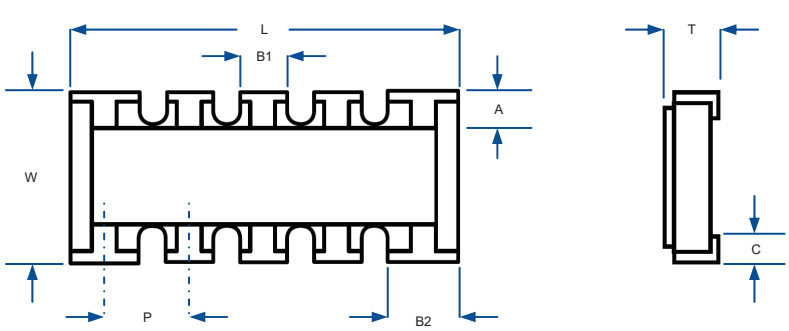


BCN10, BCN164AB (square convex)



	L	W	H	P	B	B1	C
BCN 4D	.210 ±.008	.122 ±.008	.022 ±.004	.050 ±.008	.030 ±.008	-	.012 ±.008
	5.34 ±0.20	3.10 ±0.20	0.55±0.10	1.27±0.20	0.80 ±0.20		0.30 ±0.20
BCN 10	.079 ±.004	.039 ±.004	.018 ±.004	.020 ±.002	.012 ±.002	.016±.002	.012±.006
	2.00 ±0.10	1.00 ±0.10	0.45 ±0.10	0.50 ±0.05	0.30 ±0.05	0.40 ±0.05	0.3 ±0.15
BCN 16 4A/ AB	.126 ±.004	.063 ±.004	.020 ±.004	.031 ±.002	.020 ±.004	-	.009 ±.005
	3.20 ±0.10	1.60 ±0.10	0.50 ±0.10	0.80 ±0.05	0.50 ±0.10		0.229 ±0.125

BCN168 (square convex)



L	W	T	A	B1	B2	C	P
.126 ±.008	.063 ±.008	.020 ±.004	.012 ±.006	.014 ±.006	.020 ±.006	.008	.025
3.20 ±0.20	1.60 ±0.20	0.50 ±0.10	0.30 ±0.15	0.36 ±0.15	0.50 ±0.15	0.20	0.64

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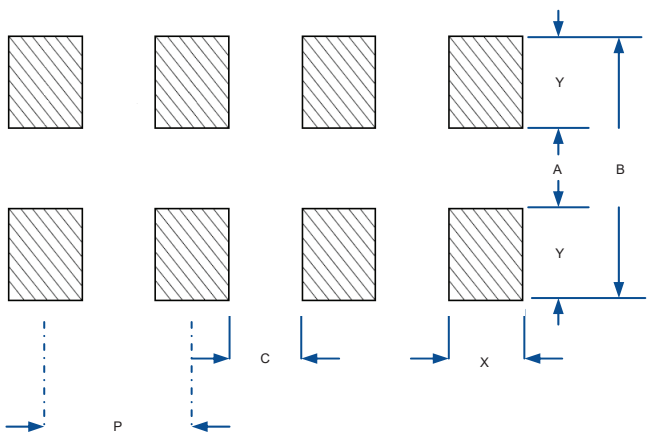
BCN Series

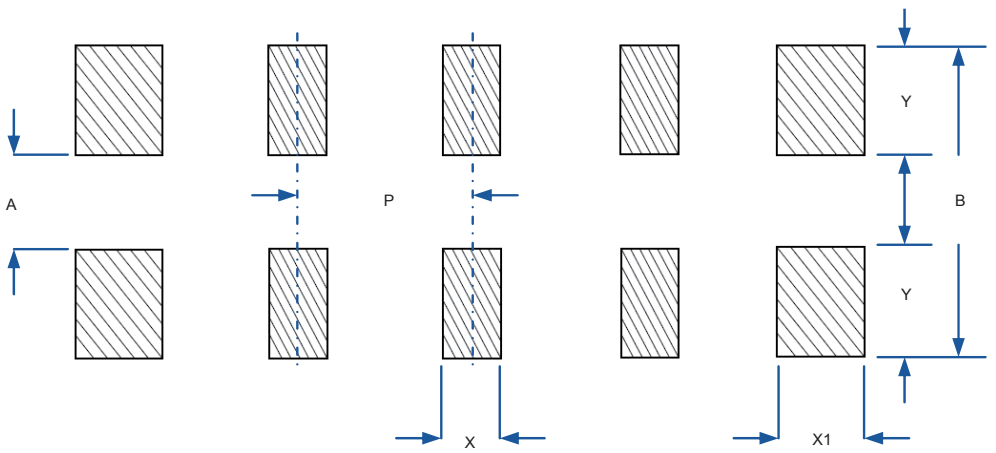
Solder pad layout (Inch / mm)

BCN4D, BCN164



		Wave Solder Process					Re-flow Solder Process				
	P	A	B	C	X	Y	A	B	C	X	Y
BCN 4D	.050	.087	.169	.022	.028	.041	.087	.154	.022	.028	.034
	1.27	2.20	4.30	0.57	0.70	1.05	2.20	3.90	0.57	0.70	0.85
BCN 16 4A, AB	.032	.039	.118	.014	.018	.039	.039	.118	.014	.018	.039
	0.80	1.00	3.00	0.35	0.45	1.00	1.00	3.00	0.35	0.45	1.00

BCN168



		Wave Solder Process					Re-flow Solder Process				
	P	A	B	X	X1	Y	A	B	X	X1	Y
BCN 16 8RB / 8SB	.025	.048	.096	.012	.018	.024	.048	.096	.012	.018	.024
	0.64	1.20	2.40	0.30	0.45	0.60	1.20	2.40	0.30	0.45	0.60

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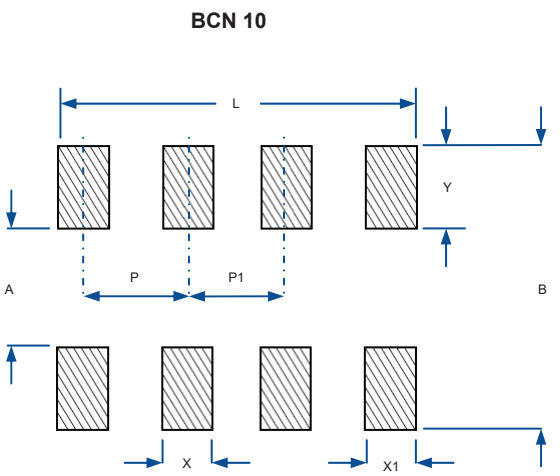
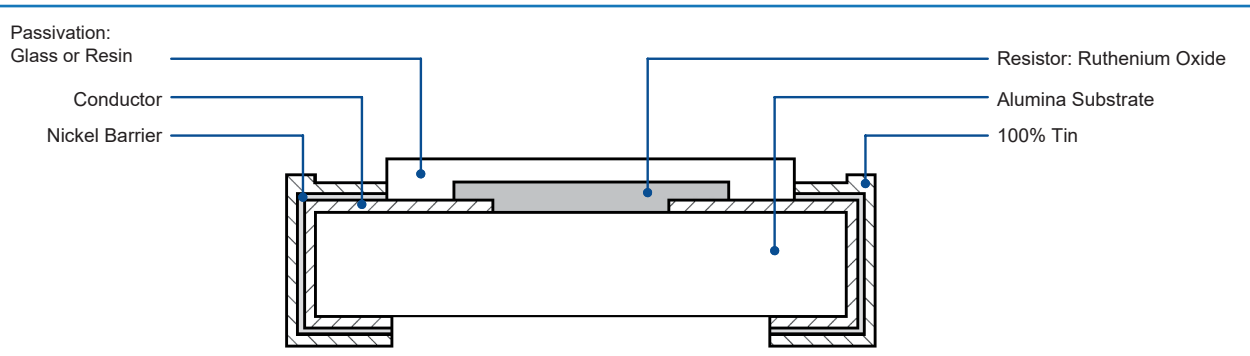
Solder pad layout (Inch / mm)



	P	P1	A	B	X	X1	Y	L
BCN 10	.024	.020	.020 ±.004	.060 ±.004	010 ±.004	.018 ±.004	.020 ±.004	.085 ±.004
	0.60	0.50	0.50 ±0.10	1.50 ±0.10	0.25 ±0.15	0.45 ±0.10	0.50 ±0.10	2.15 ±0.10

Construction



Marking

BCN parts are marked with ohmic values. 2% and 5% tolerance parts are marked with three characters (e.g. 102). 1% tolerance parts may be marked with 3 or 4 characters (e.g. 102, 1001, 4991)

BCN Series

Ordering Procedure

Example: BCN164AB102J7S (BCN 1.6mm wide, 4 resistors, isolated circuit, square edge, convex terminations at 1 kilohm ±5%, on a 7” reel, anti-sulphur construction, Pb-free).

B	C	N	1	6	4	A	B	1	0	2		J	7		S
1			2		3	4	5	6				7	8		9

1 Series	2 Width	3 Number of Resistors	4 Circuit	5 Edge	6 Value	7 Tolerance	8 Packaging	9 Construction
BCN	Blank= 3.1mm	4	A=Isolated	Blank= Scalloped	3 digits for E24 at 2% or 5%	F=±1%	7=7" reel (standard)	Blank= Standard
		8	D=Isolated			G=±2%	13=13” reel	
	10=1.0mm		S=Standard bussed	B=Square	4 digits for uniquely E96 and for all values at 1%	J=±5%		S=Anti-sulphur
	16=1.6mm					(Blank for jumper)		
	21=2.1mm		R=Reverse bussed					
					JP=Jumper			

Valid Options (1 - 5)	Valid Options (6 & 9)	Packaging Quantity & Tape (8)
BCN104AB	JP=Jumper, S=Anti-sulphur (5% tolerance & 7" reel only)	7=10,000/reel, 13=40,000/reel, Paper tape
BCN164A	JP=Jumper, S=Anti-sulphur (1 or 2% tolerance & 7" reel only)	7=5000/reel, 13=20,000/reel, Paper tape
BCN164AB	JP=Jumper, S=Anti-sulphur (1 or 5% tolerance only)	
BCN168SB		
BCN168RB	S=Anti-sulphur (7" reel only)	
BCN4D	JP=Jumper, S=Anti-sulphur (5% tolerance & 7" reel only)	7=4000/reel, 13=16,000/reel, Plastic tape